

ETV–Homeland Security Evaluation of Cyanide Detectors

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EPA's Environmental Technology Verification (ETV) Program was established in 1995 to objectively verify the performance of technologies that measure/monitor the quality of our environment, both for background or at suspected contamination site. The ETV program has established six centers to verify a wide variety of environmental technologies. This technology verification program is now incorporated into EPA's Homeland Security efforts. One of the Centers, the Advanced Monitoring Systems (AMS) Center, recently conducted an analysis of commercially available devices to detect cyanide in water.

EPA and AMS Center staff recently met with interested Stakeholders to identify possible detection devices that could be used to assist with protection of the nation's drinking water systems, whether raw or finished water. At the recommendation of the Stakeholder community, the Center inquired amongst the vender community as to whether any vender with a cyanide in water detector wished to have the performance of their technology verified through the ETV process. The toxic dose for drinking water is 250 mg CN/l which is too large of a logistical amount for purposefully contaminating a reservoir or large water body, but could be a threat for distribution points in or to a public building. This pollutant and this scenario was shown as a possible threat, when in February 2002, authorities in Rome, Italy, found a map pinpointing the location of water pipes to an American Embassy. Five vendors with six technologies have participated in a cyanide-in-water detection test. The developed verification Test Plan will also be turned into a test Protocol for later testing of similar technologies. Parameters assessed were such things as: accuracy, precision, linearity, detection limit, interferences, operator bias, inter-unit reproducibility and rates of false positives and false negatives. Using this information, the state or local utility operator, using verified technologies, can make a rapid assessment, based on credible data, of any suspected change in the drinking water quality at their plant. This Poster will describe the significance of that testing.

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